

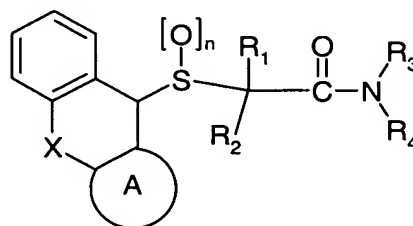
Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

Claims 1-3 (canceled)

4. (currently amended) A compound of the formula (II):



(II)

wherein

X is $-(CH_2)_m-$, $-O-$, $-S(O)_n-$, $-N(R_5)-$, $-CH=CH-$, or $-CH_2-CH=CH-$;

m is 0, 1, 2 or 3;

n is 0, 1 or 2;

R_1 - R_4 are the same or different and are each selected from H, lower alkyl, $-OH$, and $-CH(R_6)-$

$CONR_7R_8$ [$[[]$]; or any of R_1 - R_4 can be taken together to form a 3-7 member carbocyclic or heterocyclic ring;

R_5 is H, lower alkyl, or $-OH$;

R_6 , R_7 and R_8 ~~is H, lower alkyl~~ are each independently H or lower alkyl; and

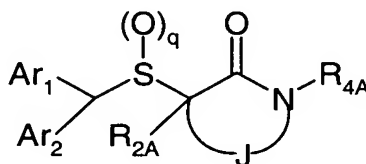
ring A, together with the carbon atoms to which it is attached is selected from:

- a) a 6-membered carbocyclic ring in which from 1 to 3 carbon atoms may be replaced by hetero atoms selected from oxygen, nitrogen and sulfur; and
- b) a 5-membered carbocyclic ring in which either:
 - i) one carbon atom may be replaced with an oxygen, nitrogen, or sulfur atom;
 - ii) two carbon atoms may be replaced with a sulfur and a nitrogen atom, an oxygen and a nitrogen atom, or two nitrogen atoms; or

iii) three carbon atoms may be replaced with three nitrogen atoms, one oxygen and two nitrogen atoms, or one sulfur and two nitrogen atoms;
and the stereoisomeric forms, mixtures of stereoisomeric forms, or pharmaceutically acceptable salt and ester forms thereof.

Claims 5-16 (cancelled)

17. (original) A compound of formula (V):



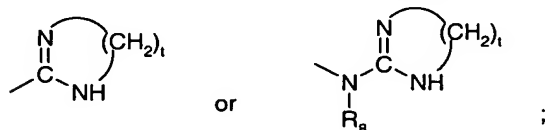
(V)

wherein:

Ar₁ and Ar₂ are each independently selected from C₆-C₁₀ aryl or heteroaryl;

wherein each of Ar₁ or Ar₂ may be independently optionally substituted with 1-3 substituents independently selected from:

- a) H, C₆-C₁₀ aryl, heteroaryl, F, Cl, Br, I, -CN, -CF₃, -NO₂, -OH, -OR₇, -O(CH₂)_pNR₉R₁₀, -OC(=O)R₇, -OC(=O)NR₉R₁₀, -O(CH₂)_pOR₈, -CH₂OR₈, -NR₉R₁₀, -NR₈S(=O)₂R₇, -NR₈C(=O)R₇, or -NR₈C(=S)R₇;
- b) -CH₂OR₁₁;
- c) -NR₈C(=O)NR₉R₁₀, -NR₈C(=S)NR₉R₁₀, -CO₂R₁₂, -C(=O)R₁₃, -C(=O)NR₉R₁₀, -C(=S)NR₉R₁₀, -CH=NOR₁₂, -CH=NR₇, -(CH₂)_pNR₉R₁₀, -(CH₂)_pNHR₁₁, -CH=NNR₁₂R_{12A}, -C(=NR₈)NR_{8A}R_{8B}, -NR₈C(=NH)R_{8A}, -NR₈C(=NH)NR_{8A}R_{8B},



- d) -S(O)_yR₇, -(CH₂)_pS(O)_yR₇, -CH₂S(O)_yR₇; and
- e) C₁-C₈ alkyl, C₂-C₈ alkenyl, or C₂-C₈ alkynyl, where:

- 1) each alkyl, alkenyl, or alkynyl group is unsubstituted; or
- 2) each alkyl, alkenyl or alkynyl group is independently substituted with 1 to 3 groups independently selected from C₆-C₁₀ aryl, heteroaryl, F, Cl, Br, I, CF₃, -CN, -NO₂, -OH, -OR₇, -CH₂OR₈, -NR₉R₁₀, -O-(CH₂)_p-OH, -S-(CH₂)_p-OH, -X₁(CH₂)_pOR₇, X₁(CH₂)_pNR₉R₁₀, -X₁(CH₂)_pC(=O)NR₉R₁₀, -X₁(CH₂)_pC(=S)NR₉R₁₀, -X₁(CH₂)_pOC(=O)NR₉R₁₀, -X₁(CH₂)_pCO₂R₈, -X₁(CH₂)_pS(O)_yR₇, -X₁(CH₂)_pNR₈C(=O)NR₉R₁₀, -C(=O)R₁₃, -CO₂R₁₂, -OC(=O)R₇, -C(=O)NR₉R₁₀, -OC(=O)NR₁₂R_{12A}, O-tetrahydropyranyl, -C(=S)NR₉R₁₀, -CH=NNR₁₂R_{12A}, -CH=NOR₁₂, -CH=NR₇, -CH=NNHCH(N=NH)NH₂, -NR₈CO₂R₇, -NR₈C(=O)NR₉R₁₀, -NR₈C(=S)NR₉R₁₀, -NHC(=NH)NH₂, -NR₈C(=O)R₇, -NR₈C(=S)R₇, -NR₈S(=O)₂R₇, -S(O)_yR₇, -S(=O)₂NR₁₂R_{12A}, -P(=O)(OR₈)₂, -OR₁₁, and a C₅-C₇ monosaccharide where each hydroxyl group of the monosaccharide is independently either unsubstituted or is replaced by H, C₁-C₄ alkyl, C₁-C₄ alkoxy, or -O-C(=O)R₇;

X₁ is -O-, -S-, -N(R₈)-;

J is C₂-C₄ alkylene or Q-CO-;

Q is C₁-C₃ alkylene;

R_{2A} is H, C₁-C₆ alkyl, aryl or heteroaryl;

R_{4A} is H, C₁-C₆ alkyl, aryl or heteroaryl;

R₇ is C₁-C₆ alkyl, C₆-C₁₀ aryl, or heteroaryl;

R₈, R_{8A} and R_{8B} are each independently H, C₁-C₄ alkyl, or C₆-C₁₀ aryl;

R₉ and R₁₀ are independently selected from H, C₁-C₄ alkyl, and C₆-C₁₀ aryl; or R₉ and R₁₀ together with the nitrogen to which they are attached, form a 3-7 member heterocyclic ring;

R₁₁ is the residue of an amino acid after the hydroxyl group of the carboxyl group is removed;

R₁₂ and R_{12A} are each independently selected from H, C₁-C₆ alkyl, cycloalkyl, C₆-C₁₀ aryl, and heteroaryl; or R₁₂ and R_{12A}, together with the nitrogen to which they are attached, form a 5-7 member heterocyclic ring;

R₁₃ is H, C₁-C₆ alkyl, cycloalkyl, C₆-C₁₀ aryl, heteroaryl, -C(=O)R₇, -C(=O)NR₉R₁₀, or -C(=S)NR₉R₁₀;

p is from 1, 2, 3, or 4;

q is 0, 1, or 2;

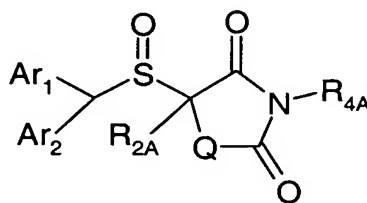
t is 2, 3, or 4;

y is 0, 1 or 2;

and the stereoisomeric forms, mixtures of stereoisomeric forms, or pharmaceutically acceptable salt and ester forms thereof.

18. (original) The compound of claim 17, wherein Ar₁ and Ar₂ are phenyl and q=1.

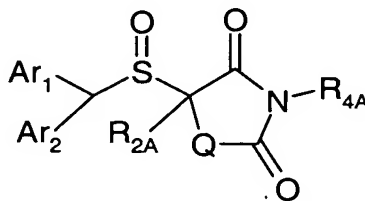
19. (original) The compound of claim 17, wherein q is 1 and J is Q-CO to form a compound of formula (VI):



(VI)

Claims 20-22 (canceled)

23. (currently amended) The compound of claim 19, wherein the compounds are selected in accordance with ~~Table 2A~~ the following table:

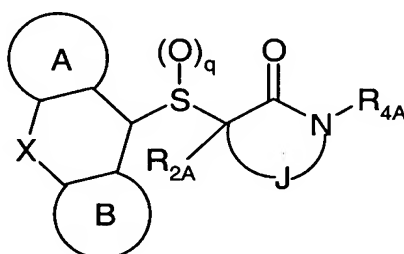


(VI)

No.	Ar ₁	Ar ₂	R _{2A}	Q	R _{4A}
VI-1	Phenyl	Phenyl	H	CH ₂	H
VI-2	Phenyl	Phenyl	H	CH ₂	CH ₃
VI-3	Phenyl	Phenyl	H	CH ₂	(CH ₂) ₂ OMe
VI-4	Phenyl	Phenyl	H	CH ₂	(CH ₂) ₂ OH
VI-5	Phenyl	Phenyl	H	CH ₂	(S)-CH(CH ₃)CH ₂ OH
VI-6	4-Fluorophenyl	4-Fluorophenyl	H	CH ₂	CH ₃
VI-7	3-Thienyl	3-Thienyl	H	CH ₂	H
VI-8	3-Thienyl	Phenyl	H	CH ₂	H
VI-9	Phenyl	Phenyl	H	(CH ₂) ₂	H

Claims 24-32 (canceled)

33. (original) A compound of formula (VII):



(VII)

wherein

X is a bond, -CH₂CH₂-, -O-, -S(O)_y-, -N(R₈)-, -CHN(R₈)-, -CH=CH-, -CH₂-CH=CH-, C(=O), -C(R₈)=N-, -N=C(R₈)-, -C(=O)-N(R₈)-, or -NR₈-C(=O)-;

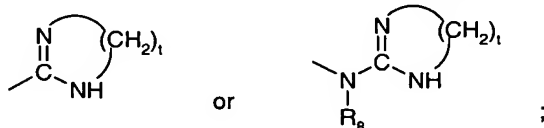
Rings A and B, together with the carbon atoms to which they are attached, are each independently selected from:

- a 6-membered aromatic carbocyclic ring in which from 1 to 3 carbon atoms may be replaced by hetero atoms selected from oxygen, nitrogen and sulfur; and
- a 5-membered aromatic carbocyclic ring in which either:

- i) one carbon atom is replaced with an oxygen, nitrogen, or sulfur atom;
- ii) two carbon atoms are replaced with a sulfur and a nitrogen atom, an oxygen and a nitrogen atom, or two nitrogen atoms; or
- iii) three carbon atoms are replaced with three nitrogen atoms, one oxygen and two nitrogen atoms, or one sulfur and two nitrogen atoms;

wherein Ring A and Ring B may each independently be substituted with 1-3 substituents selected from:

- a) H, C₆-C₁₀ aryl, heteroaryl, F, Cl, Br, I, -CN, -CF₃, -NO₂, -OH, -OR₇, -O(CH₂)_pNR₉R₁₀, -OC(=O)R₇, -OC(=O)NR₉R₁₀, -O(CH₂)_pOR₈, -CH₂OR₈, -NR₉R₁₀, -NR₈S(=O)₂R₇, -NR₈C(=O)R₇, or -NR₈C(=S)R₇;
- b) -CH₂OR₁₁;
- c) -NR₈C(=O)NR₉R₁₀, -NR₈C(=S)NR₉R₁₀, -CO₂R₁₂, -C(=O)R₁₃, -C(=O)NR₉R₁₀, -C(=S)NR₉R₁₀, -CH=NOR₁₂, -CH=NR₇, -(CH₂)_pNR₉R₁₀, -(CH₂)_pNHR₁₁, -CH=NNR₁₂R_{12A}, -C(=NR₈)NR_{8A}R_{8B}, -NR₈C(=NH)R_{8A}, -NR₈C(=NH)NR_{8A}R_{8B},



- d) -S(O)_yR₇, -(CH₂)_pS(O)_yR₇, -CH₂S(O)_yR₇; and
- e) C₁-C₈ alkyl, C₂-C₈ alkenyl, or C₂-C₈ alkynyl, where:
 - 1) each alkyl, alkenyl, or alkynyl group is unsubstituted; or
 - 2) each alkyl, alkenyl or alkynyl group is independently substituted with 1 to 3 groups independently selected from C₆-C₁₀ aryl, heteroaryl, F, Cl, Br, I, CF₃, -CN, -NO₂, -OH, -OR₇, -CH₂OR₈, -NR₉R₁₀, -O-(CH₂)_p-OH, -S-(CH₂)_p-OH, -X₁(CH₂)_pOR₇, X₁(CH₂)_pNR₉R₁₀, -X₁(CH₂)_pC(=O)NR₉R₁₀, -X₁(CH₂)_pC(=S)NR₉R₁₀, -X₁(CH₂)_pOC(=O)NR₉R₁₀, -X₁(CH₂)_pCO₂R₈, -X₁(CH₂)_pS(O)_yR₇, -X₁(CH₂)_pNR₈C(=O)NR₉R₁₀, -C(=O)R₁₃, -CO₂R₁₂, -OC(=O)R₇, -C(=O)NR₉R₁₀, -OC(=O)NR₁₂R_{12A}, O-tetrahydropyranyl, -C(=S)NR₉R₁₀, -CH=NNR₁₂R_{12A}, -CH=NOR₁₂, -CH=NR₇, -CH=NNHCH(N=NH)NH₂, -NR₈CO₂R₇, -NR₈C(=O)NR₉R₁₀, -NR₈C(=S)NR₉R₁₀, -NHC(=NH)NH₂, -NR₈C(=O)R₇, -NR₈C(=S)R₇, -NR₈S(=O)₂R₇, -S(O)_yR₇, -S(=O)₂NR₁₂R_{12A}, -P(=O)(OR₈)₂, -OR₁₁, and

a C₅-C₇ monosaccharide where each hydroxyl group of the monosaccharide is independently either unsubstituted or is replaced by H, C₁-C₄ alkyl, C₁-C₄ alkoxy, or -O-C(=O)R₇;

J is C₂-C₄ alkylene or Q-CO-;

Q is C₁-C₃ alkylene;

R_{2A} is H, C₁-C₆ alkyl, aryl or heteroaryl;

R_{4A} is H, C₁-C₆ alkyl, aryl or heteroaryl;

R₇ is C₁-C₆ alkyl, C₆-C₁₀ aryl, or heteroaryl;

R₈, R_{8A} and R_{8B} are each independently H, C₁-C₄ alkyl, or C₆-C₁₀ aryl;

R₉ and R₁₀ are independently selected from H, C₁-C₄ alkyl, and C₆-C₁₀ aryl; or R₉ and R₁₀ together with the nitrogen to which they are attached, form a 3-7 member heterocyclic ring;

R₁₁ is the residue of an amino acid after the hydroxyl group of the carboxyl group is removed;

R₁₂ and R_{12A} are each independently selected from H, C₁-C₆ alkyl, cycloalkyl, C₆-C₁₀ aryl, and heteroaryl; or R₁₂ and R_{12A}, together with the nitrogen to which they are attached, form a 5-7 member heterocyclic ring;

R₁₃ is H, C₁-C₆ alkyl, cycloalkyl, C₆-C₁₀ aryl, heteroaryl, -C(=O)R₇, -C(=O)NR₉R₁₀, or -C(=S)NR₉R₁₀;

X₁ is -O-, -S-, -N(R₈)-;

p is from 1 to 4;

q is 0, 1, or 2;

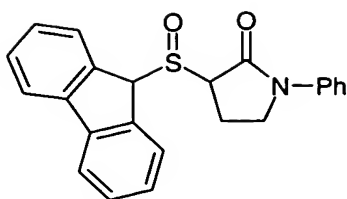
t is 2, 3, or 4;

y is 0, 1 or 2;

and the stereoisomeric forms, mixtures of stereoisomeric forms, or pharmaceutically acceptable salt and ester forms thereof.

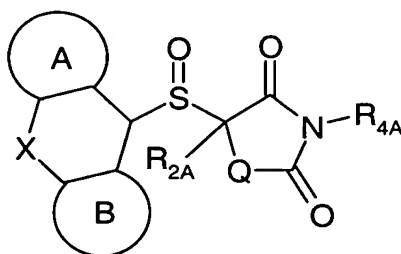
34. (original) The compound of claim 33, wherein rings A and B are benzo; X is a bond or -O- and q=1.

35. (original) The compound of claim 34, having the formula (VII-1):



(VII-1)

36. (original) The compound of claim 33, wherein q is 1; and J is Q-CO- to form a compound of formula (VIII):

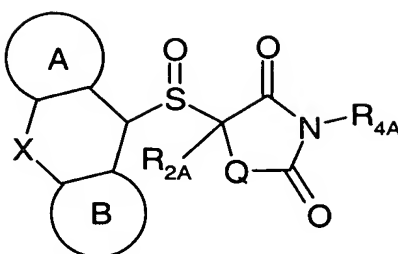


(VIII)

37. (original) The compound of claim 36, wherein rings A and B are benzo; and X is a bond or -O-.

Claim 38 (canceled)

39. (currently amended) The compound of claim 36, wherein the compounds are selected in accordance with ~~Table 2B~~ the following table:



(VIII)

<u>No.</u>	<u>A</u>	<u>B</u>	<u>X</u>	<u>R_{2A}</u>	<u>Q</u>	<u>R_{4A}</u>
<u>VIII-1</u>	<u>Benzo</u>	<u>Benzo</u>	<u>bond</u>	<u>H</u>	<u>CH₂</u>	<u>H</u>
<u>VIII-2</u>	<u>Benzo</u>	<u>Benzo</u>	<u>bond</u>	<u>H</u>	<u>CH₂</u>	<u>Me</u>
<u>VIII-3</u>	<u>Benzo</u>	<u>Benzo</u>	<u>bond</u>	<u>H</u>	<u>CH₂</u>	<u>(CH₂)₂OMe</u>
<u>VIII-4</u>	<u>Benzo</u>	<u>Benzo</u>	<u>bond</u>	<u>H</u>	<u>CH₂</u>	<u>(CH₂)₂OH</u>
<u>VIII-5</u>	<u>Benzo</u>	<u>Benzo</u>	<u>bond</u>	<u>H</u>	<u>CH₂</u>	<u>CH(CH₃)CH₂OH</u>
<u>VIII-6</u>	<u>Benzo</u>	<u>Benzo</u>	<u>bond</u>	<u>H</u>	<u>CH₂</u>	<u>OH</u>
<u>VIII-7</u>	<u>Benzo</u>	<u>Benzo</u>	<u>bond</u>	<u>H</u>	<u>CH₂</u>	<u>CH₂-(4-methoxyphenyl)</u>
<u>VIII-8</u>	<u>Benzo</u>	<u>Benzo</u>	<u>bond</u>	<u>H</u>	<u>CH₂</u>	<u>Ph</u>
<u>VIII-9</u>	<u>Benzo</u>	<u>Benzo</u>	<u>bond</u>	<u>H</u>	<u>(CH₂)₂</u>	<u>H</u>

40. (original) The compound of claim 4, wherein ring A is selected from thiophene, isothiazole, phenyl, oxazole, isoxazole, thiazole, and imidazole.

41. (currently amended) A method of treating diseases or disorders in a subject in need thereof comprising administering a therapeutically effective amount of a compound of claims [[1, 2, 3,]] 4, 17 or 33 to said subject.

42. (currently amended) The method of claim 41, wherein the compound is administered for the treatment of sleepiness, tiredness, Parkinson's disease, cerebral ischemia, stroke, sleep apneas, eating disorders, attention deficit hyperactivity disorder, cognitive dysfunction or fatigue; ~~and~~ or for the promotion of wakefulness, stimulation of appetite, or stimulation of weight gain.

43. (original) The method of claim 41, wherein the compound is administered for the treatment of disorders associated with hypofunctionality of the cerebral cortex.

44. (currently amended) The method of claim 43, wherein the compound is administered for the treatment of depression, schizophrenia, ~~and~~ or chronic fatigue syndrome.

45. (currently amended) A pharmaceutical composition comprising a compound of claims [[1, 2, 3,]] 4, 17 or 33 in admixture with one or more pharmaceutically acceptable excipients.

46. (new) The compound of claim 4 wherein ring A is thiophenylene or phenylene.

47. (new) The compound of claim 46 wherein ring A is phenylene.

48. (new) The compound of claim 47 wherein X is a bond.

49. (new) The compound of claim 47 wherein X is -O-.

50. (new) The compound of claim 47 wherein X is -NCH₃.

51. (new) The compound of claim 47 wherein X is -S-.

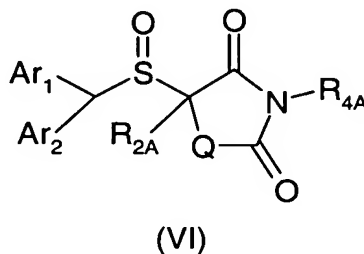
52. (new) The compound of claim 4 wherein n is 1.

53. (new) The compound of claim 4 wherein R₃ and R₄ are taken together with the nitrogen to which they are attached to form a morpholine ring.

54. (new) The compound of claim 17 wherein Ar₁ and Ar₂ are each independently phenyl or thienyl.

55. (new) The compound of claim 54 wherein Ar₁ and Ar₂ are phenyl.

56. (new) The compound of claim 17 wherein q is 1.
57. (new) The compound of claim 17 wherein J is C₂ alkylene.
58. (new) The compound of claim 17 wherein J is C₃ alkylene.
59. (new) The compound of claim 17 wherein R_{2A} is H or C₁-C₆ alkyl and R_{4A} is phenyl, thienyl or pyridyl.
60. (new) The compound of claim 59 wherein R_{4A} is phenyl.
61. (new) The compound of claim 17 wherein Ar₁ and Ar₂ are phenyl, q is 1, and J is C₂-C₃ alkylene.
62. (new) The compound of claim 19 wherein Q is C₁ alkylene.
63. (new) The compound of claim 19 wherein Q is C₂ alkylene.
64. (new) The compound of claim 19 wherein the compound is selected in accordance with the following table:



No.	Ar ₁	Ar ₂	R _{2A}	Q	R _{4A}
VI-1	Phenyl	Phenyl	H	CH ₂	H
VI-2	Phenyl	Phenyl	H	CH ₂	CH ₃
VI-3	Phenyl	Phenyl	H	CH ₂	(CH ₂) ₂ OMe

No.	Ar ₁	Ar ₂	R _{2A}	Q	R _{4A}
VI-4	Phenyl	Phenyl	H	CH ₂	(CH ₂) ₂ OH
VI-5	Phenyl	Phenyl	H	CH ₂	(S)-CH(CH ₃)CH ₂ OH
VI-6	4-Fluorophenyl	4-Fluorophenyl	H	CH ₂	CH ₃
VI-7	3-Thienyl	3-Thienyl	H	CH ₂	H
VI-8	3-Thienyl	Phenyl	H	CH ₂	H
VI-9	Phenyl	Phenyl	H	(CH ₂) ₂	H

65. (new) The compound of claim 33 wherein rings A and B are each independently selected from phenylene and thienylene.
66. (new) The compound of claim 65 wherein rings A and B are phenylene.
67. (new) The compound of claim 33 wherein q is 1.
68. (new) The compound of claim 33 wherein X is a bond, -O-, or CH₂CH₂.
69. (new) The compound of claim 68 wherein X is a bond.
70. (new) The compound of claim 33 wherein J is C₂ alkylene.
71. (new) The compound of claim 33 wherein J is C₃ alkylene.
72. (new) The compound of claim 33 wherein rings A and B are phenylene, X is a bond, -O-, or CH₂CH₂, q is 1, and J is C₂-C₃ alkylene.